DOCUMENT RESUME

ED 327 133 IR 014 704

AUTHOR Riskin, Steve R.
TITLE Teaching through Interactive Multi-Media Programming. A New Philosophy of the Social Sciences and a New Epistemology of Creativity.
PUB DATE 90
NOTE 43p.
PUB TYPE Viewpoints (120) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Creativity; *Epistemology; Higher Education; *Hypermedia; *Interaction; Media Selection; Multimedia Instruction; Programing; *Sociology; *Student Developed Materials; Teacher Student Relationship; Teaching Methods
IDENTIFIERS *Multimedia Materials

ABSTRACT

This paper discusses the results of an experimental, non-traditional university class in sociology in which students produced an interactive multimedia module in a social science subject area using a computer system that allowed instant access to film, sound, television, images, and text. There were no constraints on the selection of media, or the ordering, structuring, and use of mass media materials. Students were thus engaged in the subject matter and motivated to participate in the teaching/learning process. It was discovered that such interactivity promotes non-linear, creative thinking among students, yet allows an objective structure to grow out of a subjective mass of seemingly non-related materials. It is also noted that one of the consequences of teaching sociology through interactive multimedia programming is the discovery that the process of teaching sociology is directly informed by art, film, theater, music theory, and philosophy. It is concluded that what the students have accomplished is a means of achieving a bridge that spans the gap between, and realizes the power of, two forms of knowledge--knowledge of our own creative reason and knowledge of the objective world of social phenomena, i.e., the Synthetic A Priori. (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED327133

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

TEACHING THROUGH

INTERACTIVE MULTI-MEDIA PROGRAMMING

A New Philosophy of the Social Sciences

and

A New Epistemology of Creativity

Steve R. Riskin

California State University
Dominguez Hills

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Steve R.Riskin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

(C) - 1990, Steve R. Riskin

IR014704

TEACHING THROUGH

INTERACTIVE MULTI-MEDIA PROGRAMMING

PREFACE and INTRODUCTION

Steve R. Riskin
California State University, Dominguez Hills

Preface

The following paper reports the results of an experiment in teaching at the university level through multi media programming. The students were set the task of constructing a model of the subject matter using a computer system which allowed nearly instant access to any and every form of recordable media - film, sound, television, images and text. More essential to the revolutionary quality of the construction, however, was the use of the concept of hypermedia, that is, of non-linear structuring. It is the use of hypermedia that provides for the feature of interactivity by users of the completed structure. But for the purposes of programming, hypermedia, and the forms of idea structuring and conceptualization it allows, once the artificial constraint of linearity is overcome, permits the programming students the prospect of completely open idea structuring. For the programming students there are absolutely no constraints on the ordering, apposing, layering or structuring of materials, and so every form of aesthetic structuring of concepts and ideas becomes possible.

Every conceptual structure was wholly developed out of the working of the materials, without any external imposition of organization. Under these conditions, whatever structures arose, arose through the requirements of the materials themselves and the understandings of the students being made material. Because there were no limitations on media or organization, the concepts being given a material embodiment in the forms of organization, could reveal possibilities and realities not previously attainable. While the students were aided by aesthetic constructs and criticism developed out of classical works in theatre, film and music, those pre-existing structures had no special claim to pre-eminence and were only a toolbox out of which students were free to choose, use or reject. For many students the construction of similar forms of organization out of humor, whimsy, anger, or paradox was just as compelling.

One important aspect of working purely with subjectivity, whimsy, aesthetic principles, is that that ensures that whatever is wrought is wrought out of activity. Nothing foreign is imported and the purely aesthetic principles of theatre, music, humor, whimsy or balance, remain purely subjective and only structure an activity. Thus any result is purely from the act of creation, and the understandings that arise, arise from the working of the material. From the working of material comes the assurance that what is

 (C) - 1990, Steve R. Riskin

understood is also embodied; and whatever is embodied is understood. The students create a body of knowledge and that knowledge comes out of the activity of creating the known, of bringing into the real world embodied understandings.

The conceptual embodiments 'validated' themselves by a number of processes in the construction of the massive program but the most spectacular was the point at which, for internally necessary reasons, an embodiment, a meaning, transformed itself from a purely accidental and subjective structure into a necessary and absolute concept. The organization of these latter created a 'science' of the 'discipline' and modeled and mimicked, in very important ways, the conceptual structures of any successful social science whatsoever, and that of Marx, Weber, Durkheim in particular.

Because of that particular kind of transformation what we had discovered and invented was a discipline, a body of knowledge, known wholly by its creators with a creator's knowledge, a knowledge known without evidence, a knowledge of embodied intentions made conceptual, whose meanings were discovered, created, and embodied in the very working out of the materials into forms of organization, at first wholly subjective and accidental, but made objective and absolute in their embodiment in the over arching organization. And having created and discovered them in the organization of conceptual materials they now could be seen in the world as constituent parts of objective social reality.

==========

What we had discovered was a documentable process for the realization of the synthetic a priori.

==========

Further, having found a means to create the synthetic a priori, the fact of having created the synthetic a priori was at once the creation of the synthetic a priori but also the creation of the understanding of the nature of the construct and the processes of its construction. The synthetic a priori, now understood in its creation, could now be seen in the world everywhere where it appears. And since it is in the nature of human understanding that it is involved and implicated in the understanding of the concept of the synthetic a priori, we were suddenly in a position to determine that far from being impossible, far from being unattainable, far from being a questionable philosophical desideratum, synthetic a priories are everywhere. We began to discover "little" synthetic a priories literally everywhere we looked.

One last event was the discovery that the forms of understanding now understood as underlain by the fact of the production of the synthetic a priori, that is of knowledge realized in its creation, that process itself guides the daily production of social reality, our lives, our loves, our language and our laughters.

(C) - 1990, Steve R. Riskin

Introduction

Part One of this paper discovers that one of the consequences of teaching social science through interactive multi-media programming is that the very art of teaching social science, of discovering and communicating substantive relationships and rationalities in social science, is a process that is directly informed by the forms of art, of film and theater criticism, of music theory, and philosophy.

Part Two discovers that the material produced, the interactive multimedia module in a social science subject area, as it is being structured, as it takes its increasingly complex form, transforms itself, by a number of processes, from an accidental, subjective, aleatory and essentially formless entity into an objective science.

Part Three discusses the kind of knowledge the construction of such an entity entails. For a number of reasons what the students know, the knowledge the students have in the course of these activities, is the knowledge of a creator of her creation, a knowledge which is absolute, of a reality which cannot be other than it is, and yet which is a knowledge about the objective social world. In short, what the students have accomplished is nothing short of a means of achieving a bridge that spans the gap between, and realizes the power of, two forms of knowledge, knowledge of our own creative reason and knowledge of the objective world of social phenomena. What the students have created is nothing less than the Synthetic A Priori.

(C) - 1990, Steve R. Riskin

TEACHING THROUGH

INTERACTIVE MULTI-MEDIA PROGRAMMING

Part One

Steve R. Riskin
California State University, Dominguez Hills

A revolution in computing capabilities has occurred in the last few months. It is now possible to structure multi-media, interactive teaching modules. Multi-media means sounds, images, movies, television, graphics and text are now instantaneously accessible from a properly interfaced computer or terminal; Interactive means the programmed module can respond to, and interact with, the user in a complex variety of ways.

These capabilities are effecting a profound revolution in the possibilities of education. This is not an Apple IIe which puts colored blocks on the screen; this is movies, television, theatre, the concert hall, photography and high power video games all in one, substantively and meaningfully responsive to the student-client. Very many worlds, education not least, are being changed in very fundamental ways.

Because of the nature of the technology, its extremely high level programming structures, programming becomes a possibility for students themselves. Images and sounds are the lingua franca of the young. Each young carries over 100,000 song themes in their memories, each young has spent a dozen years or more in the movies and in front of the tv, and because of that this is a form of education that will have bite and relevance to the young. Much of the propaedeutic literature surrounding this technology speaks of 'non-traditional learning modes.' But probably the reverse is more likely the truth - these are become the traditional forms.

Students can involve themselves in the research that results in specific teaching modules. The programming, as well as the substantive idea structuring, is quite accessible. Riskin has three classes, now, Spring '90, programming multimedia interactive modules in Deviance, Law and Society, and in the Sociology of the Family. His classes have created a programming manual and are doing the substantive research and idea structuring necessary to program a module.

Because the technology is so flexible the student has the possibility of exploring in any direction, playing time against place, branch against branch, form against form, searching in seemingly unrelated directions only to discover the unexpected relationships, to cross, crisscross, and skip about through the subject matter. At relevant points it allows for hard copy to be produced in the form of photographs, video, text, sheet music, poetry, outline notes, pictures, or brief histories. Indeed, the idea

 (C) - 1990, Steve R. Riskin

structuring uses the same variety of media to take on its particular forms and find its embodiment. At the same time, the path the student has taken can be available to the instructor, can be analyzed by the software itself and some consequent suggestions made directly to the student upon conclusion of the session, along with any sort of interactive testing, reinforcing, or descriptive summation required or desired. It also allows every form of teaching adjunct to be utilized, the very subject matter itself, related intellectual forms such as art, music, poetry, literature, the idea structures that link the cultural examples in time and space, the disciplines adjacent, in the past, in the future, or in developmental sequence. This technology allows the intense study possible with complex interrelatedness as well as the leisurely meandering down branches that attract merely because they seems so improbable or exotic.

The philosophy for this sort of teaching is found in the Augustinian - Neo Platonic - Franciscan - Hegelian tradition of western thought. In the 19th century these were the overwhelming resources of educational philosophy. In America they were supplanted by John Dewey and the more rational Aristotelian traditions in the early 20th century but have never really died. Now, oddly, surprisingly, and unexpectedly, they are about to flower given this new technology.

The technology for realizing it first appeared with the NEXT computer and its interactive compact disk media which allows words, clarinet sounds, pictures, and graphs to be programmed with instant random access depending on the user's whims and the programmer's ingenuity. It has now appeared as a possibility of Macs with HyperCard and CD-Rom; and IBM has created hardware to access every form of digital media, from video and audio to on line databases and digitized stills.

It has to be said, however, that very few people understand the power of this technology. The combination of interactivity and multi media is so explosive a technology, so potent, that existing examples, striking as they are, haven't even bit into flesh. When movies were new the camera, a single camera, was placed third row center in the theatre, and in one hapless apposition managed to destroy two powerful art forms. But that didn't stop the enthusiasm of the apologists: "Now everyone has a front row center seat; Now the Barrymores are always playing in Cincinnati." Little did they imagine the car chase or the helicopter rescue.

The few titles we, my students and I, have seen fall into a similar early-use lack-of-vision syndrome but even so, they are spectacular. One error they make is to throw a veritable salad bar of choices, among which the only relationship exhibited is the sharing of a common noun. "Tennyson is poetry, see the other poetry possible." Then they reach ten thousand miles away and a thousand years into the past for Haiku. I suspect, however, that that path was chosen simply because the authors had a canned Haiku Educational Film Presentation and it was plugged in simply for effect. But even the here and the now are not used particularly relevantly. Perhaps it is a requirement of any educational product being now produced that it include a section on Rap. Sure, Rap is poetry among other things, but what has that to do with Tennyson and Ulysses?

 (C) - 1990, Steve R. Riskin

A salad bar approach to the teaching possibilities of this technology is naive and sometimes even insulting. It is naive because the most basic level the technology allows is the provision of thousands of images. It is insulting in a number of ways. In order to get students to realize that they have a certain need to read Alfred Lord Tennyson (which is true) the authors throw every image in the book, every hero possible is flashed on the screen, as if to say, "You have the need, but we don't know what it is, here, choose someone you respect, find your own need."

I have had classes programming in this media. I took to it with enthusiasm immediately upon seeing it, but with an unformed vision, that has, in a very short time, in concert with the explorations of my students, blossomed into an entire philosophy of education and creativity.

We have no equipment. The students only late in the semester were able to see some video tapes of interactive CD titles. But the ideas that underlie successful programming in this media are so natural to exciting teaching and to meaningful learning that the students, even when armed only with scissors, paste, colored cards, vcrs, slides, and audio tape, have been able to put together astonishing prototype programs, making astonishing discoveries in the process. Some long dormant views on the philosophy which underlies successful teaching have been reborn, given new life, and taken concrete form. How many times in my career as a teacher not only have I had to decry the fact that my students and I don't speak the same language but have I had to think that the language itself in which I was schooled was not relevant any more. And if it is not relevant was it a waste of time? I cannot, in conscience, ask a student to read Ibsen. But I could not have existed these years without Ibsen.

The backgrounds against which a dialogue between student and teacher could have been held twenty years ago - world literature, theatre, shared values, civilizations, hope for the future of mankind, philosophy, history - have long since evaporated. The normal apparatii of classroom teaching, texts, lectures, readings, have lost what blood they may once have had and are now cat-lap, pale and mocking reflections of the harsh realities of students' contemporary lives. But now, with the new technology, it is clear that years of reading literature, of attending theatre, of listening to music, of enjoying visual art, have come finally and surprisingly to inform the teaching process. Any technology which excites students to reasonable and real rapture, <u>and</u> which makes of a teacher's disparate, private, leisurely life of the mind a single, useful and coherent power-tool for teaching is a blessing beyond deserve.

I teach sociology. I have a license to bore. I am practiced in the art of mind death. "As we can see from table B, the dependent variable, age, is inversely related to the slop slop, that Weber so presciently identified as anomie slop... Yes, you are responsible for all this cat-slap slip slop"

Up to the time of this revolution a teacher was hard put to determine if his or her students were human. They wore torn jeans, sloppy running shoes, and their hair was apt to be purple. They almost seemed human; but they <u>never</u>

(C) - 1990, Steve R. Riskin

would think. But when you saw them working video games by the hour in the student union, with an intensity that even you envied, you knew they were human. A human is a being with a mind that can be engaged. If it is not engaged it is being wasted. I have had students who will expend every clever strategy to avoid doing any thinking, research, or academic work whatsoever. They will <u>even</u> go so far as to read my text assignments, study for my mid-terms, and pile up enough points to get a B+ or an A. But they will not think. If I point out to them that it is their life and they shouldn't cheat themselves they will agree. But precisely because it is their life they can make the decision not to engage their minds with my materials.

I have always striven to find some way past that barrier and I have done some very clever and innovative things in the classroom and lecture hall. With young children it is quite easy. Their minds go a mile a minute and they can be engaged almost instantly. I always wondered why education departments have courses entitled "Motivation." The mind, once engaged, is its own motivator, and any sort of external attempts are doomed. Externally induced motivation may work once, it may work twice, but you are on a never ending search unless that mind becomes engaged.

The irony is those minds know precisely their own needs. The irony is that those minds will expend high energy to fake you out. Those needs, however, are the platform from which successful teaching must begin. The lumber of teaching is found not in Shakespeare, Turgenev, Ibsen or Strindberg but in the immediate interests and needs of the mind of the student.

There is a wonderful passage in Plato wherein Socrates invites a number of youth for a discussion on Justice. One youth states that he doubts that Socrates can sway his views and Socrates is astonished. "What, I cannot change your mind? I, Socrates?" "Yes, just so, great Socrates, for I shall go to the games instead of to your discussion and my views shall remain unchanged."

What is it in the video games that engages those minds? Control, immediate outcomes, real challenge, images, sounds, interactive activity, a sort of community, the pleasure of the game, of the search, of the engagement of the mind at a level at which time ceases to exist. If this begins to sound like the virtues of interactive multi-media, it is just that. The interactive multi-media structure, especially in its construction, engages student minds wonderfully. It is all encompassing for it is student produced, it is entirely relevant for its sources are students' own knowledge, research and experience. It is fully within the reach of everyone, for the raw materials are images and sounds. It is incredibly productive for the apposition of images, of images and sounds, is at once open, multi-leveled, complex, game-like, easily produced, informative, and as meanings are structured dozens more arise. And it takes imagination and thinking.

Working with images, with decisive, mind catching text, working in small groups, each nominally responsible for some part of the program structure, the students continually inform, display, argue, re-arrange, and discover. One group, in my Sociology of the Family, displaying the lives of children,

 (C) - 1990, Steve R. Riskin

the differences between white and Black families, is challenged by another student who took an anthro course last year on Native Americans. Their discussions and arguments can be seen as, and actually structured as, interactive choices in the program itself. It is as though, through class discussion, we have been exploring one area in the program, and are challenged by the menu, to explore another area. Since these discussions are productive, since they lead to more product in the individual groups, they are conducted with some animation and expectation. Because they contain programming ideas we have a recording secretary to make certain no productivity is lost. Think of that a moment, class room discussion which is productive to the students, that is, which the students see as valuable to the tasks at hand, such that they record them for restructuring into program structures.

"But what you contrast as the good and bad for Black and white children," goes one interchange, "has no relevance to native American children. They don't want our values. We can't just go in there and tell them how to live their lives. They don't want to have any part of our values."

Because we can hop to any area of the disk at will, because we are working with images and the apposition of images for meanings, every bit of experience and learning is, to one degree or another, relevant. The students decide that with respect to those choices in the Native American community, to continue traditional life on the reservation, or move into urban life and study chemical engineering, that that community is something like, and arguing themes that were commonly argued in, the Black communities of thirty years before. The differences, however, are also striking and informative. Where the Black community was fifteen million strong and had a variety of outspoken political theorists, Malcolm X, Father Divine, Marcus Garvey, Paul Robeson, the Native American community is ecologically and demographically fragile and lacks such articulate exponents of political possibilities.

The structuring into the program of this path, with its qualifiers, means that the images of Black and white children, once a simple dichotomy, once merely a visual content, has now reached into a new community, the Native American, and in turn searches into history, into political ideas, and reflects back to the present and has implications for the future of the Native American community and the larger American society. What started as a curiosity, a mild interest in what conceivable meanings might attach to a visual of Black and white children, has turned into an intellectual journey whose return to the starting visual image freights that image with concrete information and understandings. Exactly those paths, exactly those insights, were then structured into the program following the exact structure of the classroom discussion. The sense of accomplishment among the students is overwhelming. They applaud themselves! This is real work, productive, work, immediate results work, interactive work, pleasing work, and the work of a community. And it happens again and again.

Another aspect of this kind of teaching, and one that I find most satisfying, is the level of democracy that it brings to the classroom. Every idea, every opposing viewpoint, every politically sensitive issue,

(C) - 1990, Steve R. Riskin

easily fits into the structure. Since the client may choose his or her way through the structure where branches and choices are programmed, it is part of the programmer's art to make certain that appealing, enticing even, paths are present. Thus, if a client student is interested in the, e.g., lives of women, all along the 'women' paths there are invitations to look to the world of men, to feminists who have chosen other solutions, to ways these problems are met in other societies, to other ideologies.

Programming students are not only invited to provide these contrasting views and viewpoints, but the very aesthetics of this kind of domain intensive programming demands it. The program's complexities come from its convolutions and involutions, from its many dimensions and from the multitude of paths, layers, regions, and their relationships. Viewpoints, philosophies, ideologies are reduced, as it were, defused into programming complexities along with every other sort of resource being dealt with. They are just another kind of lumber, no decision need be reached, no finality determined, for that lies in the hands of the user.

In this context the very classroom debates that bring forth the arguments are valuable on a level that is not possible when there is no structure to absorb the potential acrimony. Structured into reflections and relationships these otherwise politically sensitive issues become neutral toward each other due to the balance and organization of the material. The more clearly, detailed, and persuasively the opposing ideas can be structured, the more easily structured are the views of the programming advocate. I have even heard the call for someone to advocate the opposing views. "Hey, I want to say that the welfare system is rotten, degrading and discriminatory; will someone do a unit on how that system grew up, its ideals and what it was supposed to accomplish so I can path out its failures and inherent racism?" Path out? Fabulous.

Not everyone works on the same level, with the same intensity, or easily with others. Not everyone speaks the same language, values the same images, or participates in similar moral environments. One student, a musician, a collector and connoisseur of rap, says he likes to work alone. He proposes that for every frame of text the class decides to include he will provide a verse of rap, on the same subject, or closely related, such that it performs a running commentary in contemporary Black imagery and poetry. I suggest that we structure that, not as a menu choice, not as a separate path, but as a small included insert that runs continuously with the rest of the program, something like the newscast's hearing impaired insert. Having said that it immediately occurred to me that I could probably provide a counter insert on the other side of the screen with the same drawn from Shakespeare, Strindberg, Ibsen and Turgenev. I offer a few scenes from Shakespeare for the class and they burst out laughing at some of the touchingly human transformations and blusterings that abound in the literature of the theatre. My education, my language, <u>can</u> be relevant, and as relevant as theirs. Good thing I spent those endless hours in the Morrison Reading Room and with the Penguin Classics.

This is a new kind of teaching, revolutionary <u>at the very least</u>. The very structuring of the ideas is open, explorative, participatory, tentative, the

 (C) - 1990, Steve R. Riskin

work of a growing and shifting community of students, relevant to individual knowledge and particular skills. It potentiates as it is communicated for the very fact of communication brings enormous productivity. It is exciting in its creation, in the performance, in the contemplation, and is very satisfying both to student and teacher. It is immediately apparent that this technology is about teaching and teaching about teaching. I have a gut feeling that if it is allowed to fall into the hands of administrators or education departments we will not find that out for years, if ever.

An unanticipated consequence of this technology and the teaching it allows is the instant community it creates among students and the potential for very widespread and continuous communities of producers. There is something very special about each working group in the classroom for while they are producing a part for a greater whole not of their making, their part, seen along a slightly different axis, is itself a whole that wants development from not yet formed groups. The communities created are, in part, potential. Thus whatever this class produces, however finished, however particular to current interests, is a perfect platform for successive classes, even years into the future, for purposes not now necessarily discernable. At the very least this structure is a product, quite possibly naive in its simplicity and failures, but the contrast with which, will inform the latter ones to be produced.

Within the classroom students move easily from group to group. Ideas spring up, are sharpened, one group's work is modified slightly to fit a path for the purposes of another group. The classroom atmosphere is open, leisurely, warm; laughter comes frequently, the whoop of discovery, students are smiling, joshing, joking, working, and enjoying themselves. Because a product is being produced, a physical product, students easily leave the classroom for the library, for coffee, for a break, for when they return they can ask and be shown how the program has grown in their absence. As a professor I don't have to worry about where they go, how much they have missed, or if they have appropriate excuses for their absence. The program structures being produced are so absorbing that students are in the classroom a good part of the time. But the fact that they are doing real work means that they act like real people. Both they and I were startled the first time a student left the class. She left naturally, no thought of asking permission, there was something a group needed from the library, that's what the library is for, and a student simply upped and fetched. Just like a human being! Nor do I have to worry if they are actually going to the library as they say because when they return they return with images, text, citations, film bits, something useful. Also, just as students can leave and return, continuity being provided by the physical program structure, there seems to be no reason why programming has to end when the semester ends. The physical structure of the program can persist through a number of semesters and students can return to see it grow and develop.

In fact, if the program persists, and since we can provide addressing such that parts of the program are accessible while other parts are not, it occurs to me that we can provide a whole series of invisible addresses so that in later years students can bring up only their contributions, only their class' contributions, or, and this was a surprising insight, the

 (C) - 1990, Steve R. Riskin

contributions of any one. That allows us to invite 'guest programmers,' persons such as Ron Karanga, Louis Farrakhan, Pat Buchannan, Senator Kennedy, whomever. We can, for ordinary uses, put their contributions out of reach, but bring them in for interest and insight. Talk about democratic programming!

Let me address the kind of meanings which are produced. This, of course, is the fundamental reason this form of teaching is so powerful. This technology allows for meanings to be structured from the inside out, as it were, from the particular to the general. This differs radically from ordinary expectations about subject matter learning in the university. But it has this one enormous advantage, among a range of advantages, that the first two thirds of the journey of the student toward comprehensive understanding of the discipline starts with the understandings the student can construct out of his or her experience, research, and imagination. Further, in these first levels, the authors of structurings are other students who are immediately available to explain and defend their productions to each other. Then, as the community of meanings is being built, expanded, and given form and structure, the range and depth of the students' knowledge grows.

Ever since Dewey, for nearly a century, the dominant philosophy of American Education has been primarily Aristotelian. Subject matter is broken up into manageable sub-units, goals are set, and the student proceeds, first through A, then B, and onward and upward. The subject matter is classificatory, hierarchical, and pre-ordered. The skills required of the student are abstract: concentration, motivation, the ability to generalize, memorize, and comprehend structures that are objective, extensible, and additive. Skills particular to the individual student are, if not of this generalized form, intrusive and disruptive.

Before the Aristotelian revolution, however, learning was greatly influenced by another tradition in Western thought, the Platonic. Here learning was by immanence. Meanings reside not in the classification and external arrangements of subject matter but are immanent within the object itself. But many meanings now are possible, and the particular skills of the individual student are a primary resource for discovering meanings. Subject matter can be examined again and again, each time within a different and growing context, and takes its increasingly complex meanings from the particular collocation of past contexts. The young Adrian Leverkuhn takes a lesson in harmony:

> ...he played a chord: all black keys, F sharp, A sharp, C sharp, added an E, and so unmasked the chord, which had looked like F sharp major, as belonging to B major, as its dominant. "Such a chord," he said, "has of itself no tonality. Everything is relation and the relation forms a circle." The A, which, forcing the resolution into G sharp, leads over from B major to E major, led him on, and so via the keys of A, D, and G he came to C major and to the flat keys... "But all that is an old story," he said, "now look how you can improve on it!" And he began to show me modulations between more distant keys... "Relationship is

 (C) - 1990, Steve R. Riskin

everything. And if you want to give it a more precise name, it is ambiguity."

To illustrate the meaning of the term [this is hyper-talk and multi-media combined, but, with vastly limited resources], he played chord progressions belonging to no definite key; demonstrated how such a progression fluctuates first between C major and G major, and how, if one leaves out the F, it fluctuates between two other keys. The ear is uncertain as to whether that progression is to be understood one way or the other. And you can extend the uncertainty. Music turns the equivocal into a system. "You can, if you are clever, take advantage of the double sense as much as you like."

Very many gifted teachers have discovered this in a number of fields. Perhaps an unexplored aspect of teaching is the tension between the certain and the ambiguous. But every teacher knows that context determines meaning. It has always been a mystery why exultant teaching, teaching with immanence, is a source of conflict among scholars. It is certainly a source of conflict between creative teachers and education departments, and especially between such teachers and administrators who live and die by quantification and testing.

Because the sources for this tradition in education has been dormant for so long it is difficult to describe and convey. We do have the help of certain philosophical novelists who have grown in the tradition of romantic rationalism. The evocation of thought structures that inhere in the subject matter and can be extracted as structures is central to Hermann Hesse's last novel the Glass Bead Players. There, in a monastic setting, a great game is played in which moves are dictated by and determined by thought structures immanent in any of the arts, sciences, human creations or understandings. These see the very Aristotelian categories of classification as idea structures with possible applications in other and disparate phenomena (actually mirroring some of the forms in which scientific discovery has in reality proceeded.)

These structures can be isolated from the media in which they are embodied, which are, after all, if the ideas are the import, essentially accidental. One purpose of education is to be able to undo, as it were, to reverse, the very creative act itself. That is, where the creator creates by investing some material substratum with an idea or structure of ideas, education consists in the ability first to see the idea in the substance, to understand the idea, and then to be able to see that idea or structure wherever else it appears embodied in the material world. While the universal is in the particular, the whole in the part, the ability to so perceive comes only after large amounts of material are so processed since the part, the particular, must be seeable in its vast complexity.

Because so much of the world is necessarily serial, because we exist in time, perceive in time, grow in time, time necessarily becomes a substrate with which the artist and thinker works. Every art that exists in time, music, theatre, film, teaching, has to overcome the merely serial to display

 (C) - 1990, Steve R. Riskin

the structures of thought that are immanent.

Thomas Mann, in Dr. Faustus, has a marvelous character, the music teacher Kretschmar, lecturing (also without equipment) on why Beethoven did not write a third movement to the Opus 111, the thirty second piano sonata, when the classic sonata form requires three movements.

The gist of his argument is that that sonata, the Opus 111, overcomes and transcends the limitations of the sonata form. Necessary to his argument is the displaying of the use of serial time by Beethoven to examine a single, simple theme of a few notes, over and over again in increasingly complex contexts. That is, while the sonata is necessarily serial in form, the meanings being conveyed are revealed by a non serial process, the examining and overlaying of the same essential core material in contexts that develop and intensify the meanings possible in those few notes while at the same time developing the listener's understanding of the material. Having <u>created</u> the listener he needs, Beethoven is now capable of cashing in, as it were, and he changes the theme by the addition of a single note. That creation is monumental; but in just its material change it is minute. "A half step for a motif; a giant step for mankind."

To quote Kretschmar and Thomas Mann,

> At last he laid his hands in his lap, was quiet a moment, and then said: "Here it comes!" and he began to play the variations movement, the 'adagio molto semplice e cantabile."

("Kretschmar played it to us on the inferior cottage piano that was all he could command, a grand piano not being granted to him.")

> The arietta theme, destined to vicissitudes for which in its idyllic innocence it would seem not to be born, is presented at once, and announced in sixteen bars, reducible to a motif which appears... like a brief soul-cry in only three notes, a quaver, a semiquaver, and a dotted crotchet, to be scanned as, say: "heav-en's blue, lov-ers' pain, fare thee well, mead-ow-land" - <u>and that is all</u>. What now happens to this mild utterance, rhythmically, harmonically, contrapuntally, to this pensive, subdued formulation, with what its master blesses it and to what he condemns it, into what black nights and dazzling flashes, crystal spheres wherein coldness and heat, repose and ecstasy are one and the same, he moves it, now flinging it down, now lifting it up, all that one may well call vast, strange, extravagantly magnificent, ... Kretschmar played us all those enormous trans-formations, singing at the same time with the greatest violence: "Dim-dada!" ...
>
> But when it ends and while it ends, something comes, after so much rage, persistence, obstinacy, extravagance: something entirely unexpected and touching in its mildness and goodness. With the motif passed through many vicissitudes, ... with this D G G occurs a slight change, it experiences a small melodic

 (C) - 1990, Steve R. Riskin

expansion. After an introductory C, it puts a C sharp before the D, so that it no longer scans "heav-en's blue," "mead-ow-land," but "Oh-thou heaven's blue," "Green-est meadowland," "Fare thee well for now," and this added C sharp is the most moving, consolatory, pathetically reconciling thing in the world. It is like having one's hair or cheek stroked, lovingly, understandingly, like a deep and silent farewell.... It blesses the object, the frightfully harried formulation, with overpowering humanity, and lies in parting so gently on the hearer's heart in eternal farewell that the eyes run over. "Now for-get the pain," it says. "Great was - God in us." "Twas all - but a dream," "Friendly - be to me." Then it breaks off. Quick hard triplets hasten to a conclusion with which any other piece might have ended.

Kretschmar did not return from the piano to his desk. He sat on his revolving stool with his face turned towards us, in the same position as ours, bent over, hands between his knees, and in a few words brought to an end his lecture on why Beethoven had not written a third movement to Op. 111. We had only needed, he said, to hear the piece to answer the question ourselves. A third Movement? A new approach? A return after this parting - impossible. It had happened that the sonata had come, in the second, enormous movement, to an end, an end without any return. And when he said 'the sonata,' he meant not only this one in C minor, but the sonata in general, as a species, as a traditional art form; it itself was here at an end, it had fulfilled its destiny, reached its goal, beyond which there was no going, it cancelled and resolved itself, - the gesture of farewell of the D G G motif, consoled by the C sharp, was a leave taking, greater than the piece itself, this was the farewell of the sonata form.

That is the power of the idea of immanence. I can here state that my students have adopted a small slogan which they wear on a little pin. It is a few words from the Bible, in Greek: "...and the Word was made Flesh."

Notice another interesting aspect of this form of teaching. There is a certain symmetry of structure between the teaching and the thing being taught. This is straight out of the romantic rational tradition of thought. The structure of Kretschmar's 'lecture' mirrors the structure of meaning in the Beethoven sonata. As Beethoven has created the hearer he needs to comprehend the final transformation, so Kretschmar does also. Having asked the question and then lectured, played, stomped, and violently sung, (having even structured messages in the succession of scanning words,) having created the student that he needs, he returns to the question. Now in asking the question, he says to his student, "You only need to hear the piece to answer that question yourselves." Fabulous! And he ends his lecture with a few quick words, precisely as Beethoven ends the Opus 111, with "quick hard triplets" with which any other piece might have ended.

The student who is learning from Kretschmar, Adrian Leverkuhn, becomes, in the novel, a monumental composer. In the famous chapter XXII, Thomas Mann

 (C) - 1990, Steve R. Riskin

has him discuss his philosophy of composing, of creating. A footnote to the book explains that these theories are in reality those of Arnold Schoenberg. It is worth quoting some of this discussion for the same inevitable questions arise in creating embodied thought structures, especially where these structures are very deep, personal, complex, and sometimes ambiguous, and created accidentally depending upon the particular class, the students involved, the times in which created, and similar accidentals and subjectivities, as do in listening to Schoenberg's work, or any highly structured art form. What can the client student get, what does the listener derive, from such complexity. One clear answer, which comes from watching my student's spontaneous laughter and joy in these constructions, is that the students to whom these creations are addressed will experience the same emotions of joy and spontaneous laughter in the discovering as were discovered in the creating.

Listen to Leverkuhn-Schoenberg:

> "In art the subjective and the objective intertwine to the point of being indistinguishable, one proceeds from the other and takes the character of the other, the subjective precipitates as objective and by genius is again awaked to spontaneity, 'dynamized,' as we say; it speaks all at once the language of the subjective. Organization is everything. Without it there is nothing, least of all art. It was aesthetic subjectivity that took on the task to organize the work out of itself, in freedom."
>
> "You are thinking of Beethoven."
>
> "Of him and of the technical principle through which a dominating subjectivity got hold of musical organization; I mean the development, or working out. The development itself had been a small part of the sonata, a modest republic of subjective illumination and dynamic. With Beethoven it becomes universal, becomes the center of the whole form, which, even where it is supposed to remain conventional, is absorbed by the subjective and is newly created in freedom. The form of variations, something archaic, a residuum, becomes a means by which to infuse new life into form. The principle of development plus variation extends over the whole sonata. It does that in Brahms, as thematic working-out, even more radically. Take him as an example of how subjectivity turns into objectivity. In him music abstains from all conventional flourishes, formulas, and residua and so to speak creates the unity of the work anew at every moment, out of freedom. But precisely on that account freedom becomes the principle of an all-round economy that leaves in music nothing casual, and develops the utmost diversity while adhering to the identical material. Where there is nothing unthematic left, nothing which could not show itself to derive from the same basic material, there one can no longer speak of a 'free style.'"
>
> "And not of the 'strict style' in the old sense, either!"

 (C) - 1990, Steve R. Riskin

"What I understand by 'strict style' is the complete integration of all musical dimensions, their neutrality towards each other due to complete organization. One must incorporate into the system all possible techniques of variation, including those decried as artificial; that is, the means which once helped the 'development' to win its hold over the sonata. I ask myself why I practiced so long under Kretschmar the devices of the old counterpoint and covered so much paper with inversion fugues, crabs, and inversions of crabs. Well now, all that should come in handy for the ingenious modification of the twelve note word. In addition to being a fundamental series it could find application in this way, that every one of its intervals is replaced by its inversion. Again, one could begin the figure with its last note and finish it on its first, and then invert this figure as well. So then you have four modes, each of which can be transposed to all the twelve notes of the chromatic scale, so that forty eight different versions of the basic series may be used in a composition and whatever other variational diversions may present themselves. A composition can also use two or more series as basic material in the double and triple fugue. The decisive factor is that every note, without exception, has significance and function according to its place in the basic series or its derivatives. That would guarantee what I call the indifference to harmony and melody."

"A magic square," I said. "But do you hope to have people hear all that?"

"Hear?" he countered. "No, not the first time, besides the student can move through the structure at will, exploring now this path and now that. Properly constructed the interactive multi-media program should provide hours of pleasure and instruction, especially as it grows through the extensive and successive communities of students. Read all instructions thoroughly before opening package; do not operate while drowsy; batteries not included. Extensive assembly required."

(C) - 1990, Steve R. Riskin

TEACHING THROUGH

INTERACTIVE MULTI-MEDIA PROGRAMMING

PART TWO

Steve R. Riskin
California State University, Dominguez Hills

In order to start, because we have no equipment, and because there are no machines on campus to demonstrate any of the few titles of which I am aware, I structure some demonstrations to exhibit the power of some of the building blocks of a multi media program.

I start with a number of exercises designed to awaken the perceptions of the class so as to enable them to see more competently into the depths of the thought structures that inform a multi media product. I find that it helps to begin with the varied complexities of the sense of sight. It is one kind of seeing necessary to pick your way across a field strewn with rocks, another kind to read dim intentions in the eyes and tails of the dogs warily sleeping nearby, still a more difficult kind to watch traffic patterns where drivers' intentions are shaped by their immediate needs, their more distant goals, the vehicle code, the insurance laws of the state, and their country of origin and neighborhood cultures. An understanding, or appreciation, of structured seeing in the mechanisms of creativity in the fine arts, however, is a target stage.

To demonstrate the power inherent in the apposition of visual images for the students I have a variety of demonstrations. I show, for example some films and do artificial rearrangements and cutting. Streetwise is an Oscar winning documentary about homeless children on the streets of Seattle. We see it through, talk about its power and impact and then I do some experiments with the film and the class. The film starts with the image of a young street child climbing upon the railing of a freeway overpass. He is talking: "I love flying, it frees you from having to do what people tell you, from all the crap...." And just as he launches himself off the railing, as the camera follows his long fall, he says: "The only thing about flying is... having to come back to fucking earth." I let the film follow his fall, seconds go by, and then I cut the film. Invariably, I get a scream from a parent in the class.

The film maker is putting some cinnamon into the baking. The film maker will cash in when a suicide of one of the children occurs near the end of the film. But once I make the artificial cut, stopping the baking, as it were, the audience's minds, instead of following passively as the film progresses, are forced to some wrapping up of what they have just seen. Of course, suicide, just a tension at this point in the film, were the film to continue to the grand splash the child makes as he hits the water, is now, at the cut, the only reasonable summation of the scene.

 (C) - 1990, Steve R. Riskin

Obviously the number of mechanisms by which a film maker creates his or her art is immense. Only a few need be demonstrated to see the power of visual apposition. Other arts, music, and especially drama, open vastly more complex tools. Having trained our students just in these few areas prepares them to understand how their subsequent productions get their penetrating power.

I try to describe what a finished product might look like. I explain and describe how programmers can create multi dimensional space, and depending on the subject matter the course is ostensibly about, some of the possible forms an arrangement of the subject matter might take. Here I try to be very liberal and eclectic, not championing any one theoretical view, not requiring any subject matter to be more important than another. Indeed, I try to find areas, subjects and viewpoints, that have never adequately been dealt with in more standard classes or texts. The whole idea here is to get the students to explore in areas in which they have some real interests or experience. In a family class I discuss the lives of women as possible an whole 'plane' through the entire model. I talk about ...

Children as children are extremely interesting because of the huge number and wide array of possible pathologies the news uncovers daily. So many of my students have had extremely traumatic lives as children, as wives, and as minorities. The lives of men is also interesting. The standard myths and visions of men, of what is required of men as men, husbands, lovers and fathers, robs men of real lives and forces them into incredibly artificial roles. But again, nothing here is required; and it hurts not a whit if whole areas are left unexplored. As we will see there is a point at which the model takes over and begins to require, if not force, attention in areas otherwise neglected.

The students begin to plan out their attack and to parcel out tasks. The model with which they start, and the tasks the model seems to require are, at the start, very much like what might be required in any university class. The first venturings are extremely external, artificial, 'scholarly,' and even disappointing. It is as though the students realize that to get through the class they will have to jump through some teacher required hoops, produce some amount of product, and parcel out their time and effort for this class in balance with the demands of their other classes.

The group who constitute themselves to work on the children's project project an immensely comprehensive model. Since the only structure they have seen is an imaginary multi dimensional program they fill in the cells with subject areas. The progress of children from infancy, early childhood, pre-school, school, adolescence, puberty etc. is made slightly more complex by division into races, socio economic level, and they even throw in an urban and rural dimension. They ask for my approval and then send out scouts for 'stuff' to stuff into the cells. "Like what are we looking for?" Anything. Pictures, text, film clips, bits of tv, ads, whatever.

In come some magazines, pictures are cut out, slips of pithy text are pasted to cards. We use different colored cards for different media. And the

 (C) - 1990, Steve R. Riskin

beginning of the process is very much like any process that precedes the creation of an object of art. "Can we use music?" Sure. Blues verses and Rap are collected.

One group dumps a thousand pictures cut from magazines on the table. Individual pictures are chosen, exclaimed over, held up for approval, and offered to me as being undoubtedly hard core sociology. A gritty black and white photograph of a littered street in a Black neighborhood with street toughs lounging against a bare brick wall, homeless at their feet, shooting up drugs. Students offer these to each other and me with a kind of defiant dare that if this isn't sociology then what the hell is.

Some simple appositions are attempted. A picture of a golden pond with water fowl silhouetted against the golden splashed water is placed next to a photo of hundreds of cars motionless on a crowded freeway each emitting clouds of dirty white exhaust. "Is this what you want, Dr. Riskin? I think this is very important, really, if we don't do something about the environment all the birds could die."

Some other experiments are now possible. A student has placed a picture of three supreme court justices in their robes, smiling, in the sunshine. On the same card he has glued a picture of a young woman behind bars. "There," he says. "Where?" I respond. I hold up the card and ask every student, one by one, what it means. We get twenty different responses. There are dozens of sets of twenty responses possible. "So what does it mean?" they ask. "It depends on what you put next to it."

They find and cut stark black and white photos of ghetto landscapes. Drug paraphernalia littering the littered streets, hard, stark realism. And they pick, choose, and argue pictures, prose, apposition, themes, meanings, and bit by piece a story begins to emerge.

The unused and the rejected are unused but only temporarily for each picture has its advocates, those who brought them, the images' 'parents', know the power of the image. And of course, they are right, but the picture has to fit a conceptual framework, it has to fit in with prose, sound, other images, and that is a collective effort so the temporarily rejected, not finding complementary advocates, are set aside.

An interesting thing here is the fact that these hard, gritty, black and whites, these gut grabbing slices of hard reality, carefully chosen and prized for their undeniable and unavoidable impact, have been, are, transformed in their appositive contexts. They are now part of a story, part of a 'fantasy', a morality, a construction. The once slam bam impact of a single photograph is now a part, a piece, a stepping stone, to something further on.

Like the reverse process of the scenes I extracted from the documentary Streetwise by prematurely cutting the stream of creation, the mind has a repose when the image is on screen for the mind knows there were preceding images, and there will be succeeding images. There is no necessity to come to closure. The mind may wonder a bit why this image comes now after those

 (C) - 1990, Steve R. Riskin

that preceded it but it also knows it need not decide with anything more final than the merest intuition that the image somehow fits. For, since the mind knows that other images are to follow, it would be premature to insist that the whole story be known at any one point in the progression.

This softens the stark images considerably. It even, the first few times it happens, confuses the students slightly. But just as there are political niceties in the production, the allowing others to speak, the shaping their own material to the necessities of the whole, they acquiesce. They see their child image being swallowed into the larger module which in turn is swallowed into the whole, if ever whole there be.

They are both accommodating but also pleased at the transformation their image undergoes when placed in context. They knew, if only dimly, that their image, once made to serve a larger purpose, would loose some of the stark impact it has as an isolated image. In some cases the deviance is startling in its scope. Stark hard reality can turn into whimsical, humorous, fantasy. The potential for any single image is almost infinite.

The addition of other parts of the module, of other students' persuasive talk, can transform an image from one perceived meaning to another entirely. Humor almost takes over the project. Pictures in apposition are cleverly and devastatingly denuded of their gritty reality with the apposition of some bit of ironic prose. Some pictures of the president mouthing ideologically contradictory and platitudinous nonsense is followed by a photograph of an elephant's rear end. Once this unexpected power is discovered they are off and running. They don't check with me, they don't puzzle, doubt, hesitate, or question. They are in control of a power and force they could never have imagined without the doing of it.

The resources the students now are drawing upon are those of theatre, film, music, and criticism. To get the realism they wanted at the start they must structure their ideas quite carefully, quite artificially. The artifice of the natural is now their quest. They discover that the woods of Arcady are dead, and over is their antique joy. They find that of old the world on dreaming fed; but grey truth is now her painted toy. To quote Eric Bentley the students now are involved in "theatre arts" rather than script writing. There is a kind of awe among the students with respect to these new and powerful possibilities. The horizons loom limitlessly. "The theatre," wrote Ellen Terry's son, Gordon Craig, "must not forever rely upon having a play to perform but must in time perform pieces of its own art. ...Why, there are tremendous things to be done. We haven't yet got near the thing. Uber-marionettes and wordless plays and actorless drama are the obvious steps to a far deeper mystery." (And those are only "the obvious steps.")

For some students pictorial appositions are not their medium. I ask a musician if she would use music the same way she sees others using images. She does and she brings a structure made entirely of sound. There are bits of song, interspersed with chants that repeat and re-occur. A mysterious intentional structure unfolds itself. One student listening became so excited she jumped up and began silently showing the class at a structured pace her pictorial appositions not so much in keeping with the music as

 (C) - 1990, Steve R. Riskin

being impelled by the music.

We spoke afterwards of ways to keep a client at the screen while a wholly musical structure was being presented. The obvious MTV solution, thousands of extremely short timed images flashing by was decided to be too distractive. Instead we discussed the slow circulation of a small series of images that repeated again and again, almost like a soft wave action lapping at the fringes of visual consciousness, perhaps, at some likely time, almost like the music structure itself, adding a new image into the cycle.

Eric Bentley's work, The Playwright as Thinker becomes an important resource for the students. It is highly informative given the structuring processes we are playing with. I actually read to the students from Bentley from time to time and at any given point they will have had the relevant experience to understand that material. I think, though I have not tried it, that I could read a few paragraphs from Kant's first critique, perhaps the transcendental deduction of the categories and they would now have the experience to understand that difficult work.

Ironies, insights and jokes from romantic rational literature become relevant and intelligible to my working students. I could read from Kafka: (on the symbolic), I could read from Ibsen: (on constructed realism), I could read from Hegel: (on the progression of ideas or the cunning of Reason) Mann: Strindberg: Stravinsky: Hesse: Aristotle: Plato: Psuedo Dionysius: Augustine: Hugh of St. Victor: I cannot resist.

> "Many complain that the words of the wise are always merely symbols and of no use in daily life, which is the only life we have. When the wise man says: 'Go over', he does not mean that we should cross over to some actual place, which we could do anyhow if it were worth the effort; he means some miraculous beyond, something unknown to us, something that he too cannot define more precisely, and which therefore cannot help us here in the least. All these symbols merely express the fact that the incomprehensible is incomprehensible, and we knew that already. But the cares we have to struggle with every day: that is a different matter.
>
> Concerning this a man once said: Why such reluctance? If you only followed the symbols you would become symbols yourselves, and thus rid of all your daily cares.
>
> Another said: I bet this is also a symbol.
>
> The first said: You have won.
>
> The second said: But unfortunately only symbolically.
>
> The first said: No, in reality; symbolically you have lost."
>
> Franz Kafka

(C) - 1990, Steve R. Riskin

But, wonderful as this bonus is, I have to ask myself what am I teaching here? criticism, philosophy, art theory, or sociology. I know I cannot, however much I might prefer to, bring to bear every bit of knowledge I have that is merely triggered by some remote analogy in the experience of the students or in the structuring of the model. Every teacher knows that. In fact, that error was the foundation of my criticisms of the salad bar approach of the titles I have so far seen.

But there is something very profound that is going on here. Whatever images and structures the students produce, at every stage while it is being produced, the choice has to be made whether to include or exclude an image or text in a series, a series in a level, a level in a region, a region in the whole. Each choice has implications for future choices and the final product. Each inclusion changes the moral weight of the structure, its tone, its direction, and its possible audience.

As the students argue over a single image and its context what they are deciding is the very nature of the single image as it will be determined by its context. Most globally, they are making judgements about the whole, about the discipline, about what is and what is not, at least for these purposes, sociology. At the same time there is a real subjective element here. They are making, and they sense it, a decision about what sociology is, and as they tie that concept increasingly into the complexities of the model it becomes locked in a way that puts it beyond argument. At some point the only argument possible is an entire competing structure which, if it is to be effective at all, is required to be as massive, as persuasive, as permanent, as substantial, as complex and convoluted with as many spectacular instances, as the one against which this structure is a counter. Some ideas are simply not worth that much work. On the other hand, some are.

The fact is, however, that even an Aristotelian classificatory structure is not arbitrary. The structure of classification seems to have to have some authority. It seems it must mirror some rationality from the subject matter itself. In some of the classic classificatory schemes the static hierarchical structure follows the schema suggested by the actual development or unfolding of the system in time. Or, depending upon your philosophical bent, of the structure of reasoning that seems essential to understand how this state of affairs came to be in the first place.

But whatever its final justification, in its unfolding the structure starts from pure subjective, accidental, playful, transitory, mercurial, appositions. In some sense everything brought to the model is, in the final construction, accidental. It didn't serve the purpose the contributor had in mind when it was brought it in, and it now serves a complex whole in a manner which is impossible to relate. How many transformations did it go through from single image to module, to layer, to region, to the whole. That history can hardly be recreated, nor does it matter. The single image is only lumber, a fill, the over-arching organization of the model, its being, is the lesson.

This means, among other things, that the provisional stages of the model are

 (C) - 1990, Steve R. Riskin

wide open. But once the structure begins to take off there are a number of forces which restrict the attainable whole. This first begins to show up because there are some students who exalt quantity.

Suppose a contributor wants to appose two images which in these contexts have no relevant meaning, or one that is antithetical to the unit at hand. Suppose they try to pretend that these have meaning in order to increase their share of the production of the module. They quite simply find that they cannot, that the structure, the direction the structure is taking, sets some very severe limitations on the inclusion or exclusion of its parts. And that these limitations become increasingly difficult to overcome. In fact, as the structure advances some earlier inclusions, doubtful at the time, are removed. Provisional materials can be left in for quite some while but there comes a time in the maturity of the students' understanding that those materials have to be transformed or excluded.

In some ways this is quite surprising. In the beginning, after overcoming the initial inertia, meanings pop out all over. Nothing is meaningless; humor transforms everything instantly. Things and concepts flip flop and jump about like fish just out of water. Since any thought, all thought, is equally distant from any empirical image, <u>any</u> conceptual meaning can be found in <u>any</u> empirical image.

But the serious implication is that with care and analysis any set of empirical images can be lumber for any conceptual schema. The playful humor turns into bitterness; the posited economic intransigence into unanticipated imaginative freedoms; the Durkheimian facticity of statistical realities into conceptually constructed Weberian ideal types. Thus, where the student chooses one sort of meanings, and this is a very familiar event precisely because it is so common an occurrence, while attempting to add materials, to refine, or flesh out a module, the analysis flips to an opposite set of meanings.

But there is a real freedom here especially for teaching. Whatever conceptual tack the student takes, whatever philosophical agenda the student is following, the student's own materials can be reinterpreted into differing conceptual contexts. The most doctrinaire insistence that social reality is underlain with, e.g., an objective, external, economic substructure can be shown, convincingly and without violence or external authority, to be transformed into material which suggests and supports opposite viewpoints. This goes some long way to fleshing out the otherwise seemingly overly metaphysical assertion that the whole is found in the particular. Whatever the particular is it will support a conceptual understanding <u>whatever the conceptual.</u>

There is an even more immense freedom here. Whatever the first directions were, whatever the first stages of the model have become, nothing has been precluded. Indeed, everything, being incipient, is a possible included. This is true in at least two ways. First, in an external manner, every embodied concept, every substantive subject matter, every region of the module can be isolated at any time and made a stage in another module by subsequent work. But also, as detailed above, every particular will support

 (C) - 1990, Steve R. Riskin

any conceptual. It is this latter freedom that propels the model.

It may appear that because the slipperiness of conceptual understandings is, astonishing as that process seems the first few times it is discovered and exhibited, too quicksilvery, that the impetus for certainty becomes so compelling. But the creation of certainty is not an impetus at all, not an external motivator. The decision to make this stuff a this and not a that, while at first quite free, quite harmless, since it could just as easily be a that and not a this, and since understandings are so easy to come by, has dramatic and far reaching consequences. It turns out to be an organic and inexorable process that creates certainty and transforms the modeling. A this, if it would only stay a this, helps exhibit and define a that, which being defined in turn helps the this stay that this. For if it does not, if it did not, the that would disappears as well.

This means that at the simplest levels of constructed meanings, what singly is mercurial, paired becomes concretized. The jello begins to firm. The evanescence of the limitless landscape, whacked with humor and flip-flopped with concepts no more stable than stageful of hyperactive jumping jacks begins to take on a skeletal framework, a foundation of iron. Ideas, once open, formless, accidental and contrived begin to firm and take up jointed stances and become as recalcitrant as their arthritic counterparts clogged with calcification.

Now the work turns serious. Now conceptual understandings, something beyond the mere aesthetic of appositions, have come into being. The very language of the working students changes. They are no longer talking about images or empirical events. Having structured a meaning or a set of meanings, the students have discovered a truth beyond the merely particular. This parcel of images, sounds, text, and this conglomeration in its contexts, represents a set of relationships and understandings which, now having been made concrete, now having taken on an abstract name, can now be seen in a number of phenomena.

There comes a point where arranged images into sub structures, which on first appearance were only seen as more or less fitting into the region of the structure then being built, must be seen as something else. As the students understand the meanings being created, as those meanings evoke a new level of vocabulary, the students can come in with more and more instances from larger and wider contexts. In fact, so productive is the embodied idea that too much material begins to come in. In our new material and conceptual wealth we can leave some in so that those constructing or following a particular track, e.g., the lives of women, can have their meanings in a form palatable to their morality, politics, or pleasure, but the students begin to realize that too many instances of the same prevents the structure from growing more complex and puts it out of balance.

But while these newly discovered embodied meanings in their embarrassing multitude are being argued for inclusion the tests they go through reveal them to be something more like rules than merely meanings. Similar structures are tested against the original and they are seen as being the same, being different, or being some subset, some overlapping structure,

 (C) - 1990, Steve R. Riskin

that is more or less the same. Of those that are the same, the differences between them that are conceptually no difference begin to display a range of qualities such that a rather clear set of criteria emerges as to what is and what is not an instance of the rule. It becomes possible to structure that new understanding in general terms such that each of the qualities that make an individual instance an instance of this new kind of generalization can be replaced in the generalization as a variable. That is, it becomes possible to structure some high level generalizations without referring to instances at all. And it becomes possible to judge the worth of those generalizations by the strength they have in allowing inclusions or exclusions, by their fit with similar generalizations, by the precision of the range of variability they describe, and more.

Some of these conceptual generalizations take on the form of ideal types as the students refine an empirical conglomerate into a conceptual whole. Some of these take on the romantic rational mirroring of the processes that are discovered or imagined to have brought into existence the empirical referent the conceptual entity reflects. Some of these are brought into being by the particular acts of the doing of the appositions similar to those which revealed a conceptual generalization for others. Analysis most certainly will reveal other processes by which explanatory generalizations are created.

I have observed that even direct counter instances become part of the schema, so long as they are provided with that explanatory proviso that allows them to be seen as instances even though appearing otherwise because of one or another special circumstances that prevents them from being illustrative, <u>in this context</u>, of the rule. This accords with those philosophical concerns with classificatory statements that seem to have counter instances but whose variances don't force a restructuring of the rule. Thus, e.g., cats are classified as carnivores even though they can sometimes be seen eating grass.

There are a few general forces which bring about the global transformation. One is in the guidelines of the structure, the more or less dimly sensed direction of the whole, another is the increasingly locked in nature of the meanings which are embodied in instances, the sense that adding more instances dilutes rather than strengthens, and the most powerful is the closure then required by the mind once a conceptual limit is defined. The mind encompasses this particular, and its sister particulars, as a set of some sort, made up of, and identified by, these variable qualities of some specifiable range of instances. After that closure it is meaningless to continue to add instances.

The students actually begin to have to become tolerant of those who continue to try to add and some part of the structure of the generalized rule comes from the discussions that educate those whose additions would dilute, change, thwart, or distort the carefully wrought structures of meanings.

The transformation for the students is from being pleased that they could find any meanings whatsoever to limiting additions to those that reveal and shed light on the intentional nature of the structure. But the conceptual

 (C) - 1990, Steve R. Riskin

skeleton of the structure will support a number of external additions, additions made for political, aesthetic, or social reasons but which do not distort the skeletal substructure of the model.

Some of these, in fact, are among the more pleasing discoveries made in the classroom. The civility, the shared understanding, the social conventions and especially the new language which grows up in the activity are a gratifying source of a special matured relationship among the students.

There is a grace in the consideration of peripheral concerns that comes after the intensity of the passage from a thousand frustrating uncertainties, devastating and essentially destructive humor, vague intuitions, first tentative meanings, and then to the white hot intensity in the discovery of certainties that result in the creation of an objective rational discipline.

Now some of these exclusions, closures, are brought about by political differences - and we have seen that these are not really necessary to exclude but merely mean that a new balance is struck by a countervailing political position which, in perfect instances, can make use of the same particular instances but which interpret those instances in a different but not necessarily inferior context. In fact, the two together make each more perfect, each less strident, each less intolerant, each more balanced and better defined.

Some differences are aesthetic. There is really no authoritative external reason to include or exclude. This is part of the subjectivity that arises by having this group of students, at this time, create this discipline. Some of the interfaces that are designed and constructed, a great deal of the imaging tolerated, the size and the balance of the structure, the areas left to others to structure, and, so far, the democracy and eclecticism of accompanying music, are in this category.

But some of these differences are objective. That is, they take on the status, given the structure, given the understandings being created, of scientific rules. After all, the class is working hard and long with a body of materials. They are extracting, combining, arguing, understanding, embodying, excluding, including, and a definite language of the structure emerges. Given the fact that not every discussion can start from ground zero, that as the complexity of the product increases, more and more of what was arguable, of what <u>was</u> empirical, becomes a given against which further arguments and understandings are bounced. A selection of previous understandings, in order to be able to move to further understandings, becomes a given against which these new understandings can be weighed.

What were brought in, in the beginning, as particular parts of an undetermined whole, have been bound into collocations, have been placed in definite relationships, and are now thought of as bound together by an rule of inclusion. The emergence of a rule of inclusion puts the particulars included beyond the scope of discussion. The rule becomes a given, a firm and final accomplishment. As more of these rules are isolated they define a body of knowledge, a discipline, and one which is wholly known by the

 (C) - 1990, Steve R. Riskin

students for they are its creators. "For Aristotle sayth," sayth Sidney, "it is not gnosis, but praxis must be the fruit." But what we have found is that "it is not gnosis, but praxis must be the root."

The particular qualities of the materials which are now combined into a generalized rule can now be seen as, just by the necessity of the understandings, and by the necessity of being able to continue to construct and understand, essential qualities. If a this is to be a that it must have these qualities. Yes, the instances are different but each difference is no real difference but merely one of an allowable possible range of differences. And/or: If this will be a this then it allows us to define and isolate a that, if you vary the this, you lose the that. And/or: In order to become a this, it had first to be a that, then a that, and finally that; and those thats are the conceptual constituents of this this. And/or: If you do this and this as we did with similars to get our that, you should get a new that.

What we are doing on a large plane is simply a reflection of what the students have been doing from the very beginning. The beginning consists of taking certain individual images and by placing those images in contexts making them symbolic. The nitty gritty here and now turns into a symbol. The assemblage of symbols turns into a rule, a law. The assemblage of laws turns into a discipline. We invent/discover sociology anew each semester and we communicate our invention, our discovery, our toy to a community of students in the distance and in the future.

The rational romantic symmetry between the structure of the thing being taught informs the structure of the method of teaching it, is here rediscovered in a grand concept: that the teaching structures the thing being taught. Certainly, as we just saw, the activity of constructing an interactive multi media teaching module mirrors the first particular creative act, the relations within between the empirical, the real, the thought, the understandings, and their embodiment, with the very philosophical structures of organized knowledge itself.

It must be pointed out that the above statement of the discovery of the nature of the science of sociology, and these sources for the authority to create a science of sociology, is unique. It is not like Parson's model which demands that we search for generalizations of a sufficiently abstract nature as to be able to explain the multitude of observations possible, and that we then structure the descending ladder of logical connectives such that the instances can be seen, objectively and logically, to follow from and be explained by, the rules of the science. It is also different from the competing view, associated with Homans, that we observe enough instances to be able to generalize, and then build the logical links from the particular to general so that the particular can be seen to derive from the general.

Instead I have posited a praxis, a subjective and intentional arrangement of particular instances, in which organization is everything. Far from being logically implied, individual parts have only a warrant. They are what they are and where they are by virtue of the organization of the whole. Where

 (C) - 1990, Steve R. Riskin

the region is yet growing, still unsettled, then they are as yet subjective, transitory and accidental, precisely because they are subject to further reflection and entanglement. So long as the structure is growing no concept is safe. The serious is in danger of becoming a jest; the sacred profane, the sublime ridiculous. But equally the trivial is capable of becoming monumental, the accidental necessary, and the despised noble. "Give me the mud of the gutter," says Delacroix, "and, in the proper context of form and color, I can make it the blush of a maiden's cheek."

But where the concepts of a region have become so entrenched that they are beyond the reach of areas still growing, and especially where they are not included for political or aesthetic reasons but rather because they serve to define, to conceptually sharpen, exhibit or limit other conceptual regions, there they are made permanent, and as such are now objective, necessary, and conceptually entombed in the organized rationality that makes the structure a discipline.

And the students love it.

(C) - 1990, Steve R. Riskin

TEACHING THROUGH

INTERACTIVE MULTI-MEDIA PROGRAMMING

PART THREE

Steve R. Riskin
California State University, Dominguez Hills

Part One focused on the kinds of meanings involved in multimedia structuring. Meanings were found to be immanent, incipient, multiple, accidental, context sensitive, and intuitive. Part Two showed the emergence of a science from the increasingly complex embeddings of those subjective meanings, in an organization, the structure of which is quite open and free in its early stages but which becomes increasingly locked in by mechanisms internal and necessary to the developing structure itself. What emerges from what was accidental and subjective is an objective, tightly organized body of knowledge, with rules, laws, and a network of relationships, whose parts, taking their status from the over arching organization of the totality, are what they are by virtue of that organization. These parts and their place within the structure, especially where one group of rules and laws itself serves to isolate and define another body of rules and laws, determines the structure of the science being discovered. In this schema laws, rules and instances are not logically derivable one from the other but rather have a warrant for being what they are from their place and relationships within the organization.

Here in Part Three we discuss the kind of knowledge the construction of such an entity entails. For a number of reasons what the students know, the knowledge the students have in the course of these activities, is the knowledge of a creator of her creation, a knowledge which is absolute, of a reality which cannot be other than it is, and yet which is a knowledge about the objective social world. In short, what the students have accomplished is nothing short of a means of achieving a bridge that spans the gap between, and realizes the power of, two forms of knowledge, knowledge of our own creative reason and knowledge of the objective world of social phenomena.

Everything written up to this point was written not far from the classrooms and while these events were in progress. I started to write only as a guide for the students, in part to let them understand their own work in a more generalized light, and in part to show them the longer range view that what they were doing was important and had connections with the work of others. The first writings were descriptive and only for internal consumption.

At the point where we discovered that the forms of theatre criticism, of art theory, of film making and musical composition inform and direct the structuring of social science and its teaching, a first version was circulated to faculty and administration. Indeed, that discovery, that

 (C) - 1990, Steve R. Riskin

teaching was an analyzable art, an art that could be communicated, seemed so important that it formed the basis of a number of grant proposals.

But also discovered in that first writing was some insight into the nature of the meanings being created by visual and aural apposition, and some early sense of the new directions the teaching enterprise was taking. Perceived, but only dimly, were the first steps toward a new epistemology of the social sciences and some appreciation of the especially powerful links between the teaching process and the structuring of the material being taught. So powerful, in fact, was that interdependence that it appeared more than merely possible that the teaching and the activity of the students in structuring the learning materials not only had a primacy over the material and subject matter being taught but that this form of teaching in some forceful way was creating the subject material itself in the forms of organization the emerging program seemed to demand.

But this was all still quite subjective and any results could easily be other than they were. Revision was the standing order of the day - revision to fit one person's work to another's pathings, revision to sharpen emerging understandings, revision to refine images. Because so much was still implicit, incipient, open and unformed, final conclusions were difficult if not impossible to draw. What we did have was a self actuating activity and an emerging structure in which that activity was being embodied and preserved albeit however tentatively.

What we did not realize for some time was that we had a form of organization which, as it emerged and grew, was to effect the entire enterprise with its own requirements even more powerfully than the relationship we had found that the activity of teaching had on the subject matter. Thus the paper, notes for which were being taken daily, was being written so close to the activity that, even though I was the author of the paper, even though I was directing the activities with which it was dealing, because the writing was itself quite descriptive, I could read and reread this paper and learn then and still learn now.

It is now possible, I suppose, to recast the paper in a more normal 'scholarly' form but because these discoveries were made over time, in the classroom setting, with the 'real-time' efforts of students self forged into a community of high energy enthusiasm and productivity due to the unanticipated force of new procedures, new forms of structuring subject matter, and new means and methods of perceiving, discovering, creating, understanding , and communicating knowledge, I am greatly persuaded to leave the paper the voyage of discovery that it was and remains. Especially because even now, in each rereading, I discover more insights into the revolutionary nature and outcome of this effort.

What is that revolution? Please indulge me briefly. From Descartes forward there have been two main epistemologies in western thought. One holds that there is an objective world that presents itself to us through sense experience and that knowledge has only one goal, to correctly and accurately mirror that world; and the other view has determined that mind can only know that which is compatible to its own particular faculties and so what is

 (C) - 1990, Steve R. Riskin

out there, or whether there is anything out there, is a superfluous and essentially meaningless speculation that can add nothing to our enquiries. The one view attempts to determine how certain knowledge is possible of an essentially accidental world, a world presented to us through our senses but always subject to change, while the other attempts through the exploration of the nature of human reason to discover the necessary rational conditions for knowledge.

Ironically, the one is looking for certain knowledge after having denied the power of rationality while the other, having asserted the primacy of rationality, has placed the world beyond reason such that it finds rationality galore, but of nothing existent or real. The one, eschewing reason, aspires to rational understanding of the external; while the other, eschewing an objective world, aspires to knowledge but knowledge of nothing.

These views, of course, are extensions of the theories of knowledge which are found in Plato and Aristotle and have always been with us throughout the history of western philosophy. For a variety of reasons neither position is without its problems and neither taken alone is very satisfying notwithstanding the great heat and little light advocates for both sides have generated for generations.

It is not really appropriate to deal at any length with these two views; there is enough writing on that to fully satisfy even the most masochistic. For our purposes, however, we can jump to the possibility that neither polar position need occupy us overly since we are working with some accord and bridge across the great gap. The possibility of this bridge was first raised by Kant in the specter that has since haunted epistemology, the specter of the Synthetic A Priori. Briefly this entails knowledge certain, sure, absolute, because it is knowledge of our own creation out of the resources and richness of human rationality, but yet which is knowledge about the external world. This recommended itself to Kant not least because knowledge of the external world which was constructed out of the necessities of human reason would be knowledge far superior to merely the knowledge of the empiricists or of the rationalists taken alone.

Empiricist knowledge at its best can only be knowledge that, having its sources in sense perception, and its goals in accuracy, the external world has these and not other characteristics. This sort of knowledge is external, descriptive, accidental and unsatisfying. Rationalist knowledge at its best can only be knowledge that, having its source in the examination of the mechanisms and structures of human reason, and its goals in rationality, can have only explored the sterile logic of its own reason. But what Kant postulated was knowledge of the external world which was not merely accurately reflecting the facticity of the external world but its rationality, its reason for being what and how it is.

The discovery now that, after two hundred years of lying fallow, there is, in fact, a realizable Synthetic A Priori, is the heart of the revolution. It is a revolution because the Synthetic A Priori turns out to be, at least in my experience, and whatever else it can be, a classroom super <u>create</u> and show and tell. We now have a new form of knowledge, a new form of

 (C) - 1990, Steve R. Riskin

conceptual tinker toy which, it turns out, has had its warranty extended and which is guaranteed by one of the best minds in history.

What are the forms of knowledge my students have created? One place to start is with that place in the construction in which what was merely accidental becomes the platform from which another structure can be bounced into existence, the first, therefore, becoming necessary to the second such that what once was subjective and accidental has now become objective and, so long as the second is desired, absolute. Whatever the conceptual qualities of the whole when finished they are implicit in this transformation.

Thus certain conceptual schema are set up and agreed upon for the simple fact that they allow other conceptual relationships to be set up and explored. The conceptual schema are an art form, more or less coherent, more or less general, more or less agreed upon. Sometimes the agreement comes in protest as it were, in order to allow a further understanding. Something like the way we order the curriculum such that algebra precedes geometry, biochemistry genetics. It is necessary to have one conceptual schema more or less set in order to use that organization as a platform to explore other conceptual relationships.

Some of these 'platform' intentional schema are myths constructed for the purposes of possible future constructs. Large portions of Marx are constructed to provide the platform that allows for the concept of world revolution by intellectually advanced sectors of the working class. The Constitution of the United States is a marvelous myth constructed with some set of difficult-to-divine intentions with respect to something sometimes called "those historic rights necessary to our concept of ordered liberties" or some such. But in the actual working out of those liberties we come up with 'understandings' which preclude states from banning the sale of contraceptives in truck stops where the truck stops serve the interests of interstate commerce.

When those myths are central to the commonality of our society the myths turn out to be more impervious to empirical counter instances than one might suppose. Since the myth serves important social functions we would rather ignore the realities than undermine support for the metaphysical construct which serves as a platform of agreement. Certain of these myths form our fourth grade science curriculum, others, the great documents of our freedom's history, adorn the lobbies of savings and loans to remind us of our dedication to the principles of liberty and divert us from the vast hemorrhaging of funds brought about by the Reagan administration's adherence to the myths of less government and bank deregulation.

But insofar as the platform concepts are constructed for wholly intentional purposes they can be constructed using only the tools of aesthetics, whimsy, humor, wit, balance, anger. These tools have nothing to do with the world. They are intentional events, wholly subjective, chosen without any necessary regard for possible future structures, and without the least regard for the fact that there is a material world beyond. There is no humor in the world, humor is what we see in the world, and we sometimes have to work very hard

 (C) - 1990, Steve R. Riskin

to bring our vision into the appropriate forms of reference to see humor in the world. Whimsy likewise; balance, dramatic arrangement, the same.

At some point these themselves become a given against which other humorous or whimsical explorations and arrangements can be constructed. Where these are compelling for whatever aesthetic rationalities they display and embody, the first set of conceptuals changes from being subjective to being a given against which the newly desired constructs can be displayed. To that extent, to the extent that they are the necessary platform which allows a new venue to be seen and explored, they become an absolute. What was once subjective is now objective, what was once accidental is now necessary, what was once whimsy is now a conceptually necessary part of a growing and burgeoning science.

This major event can be summed up in the understanding that what was once imaginary is now real. But the imagination must be a structured, fought out, complex and actively created imagination in which concepts are embodied, given physical form, and which therefore and therefrom are made permanent and accessible. The relations among the embodiments preserve understandings through their organization, since they are created out of and from the demands of the materials, through wholly aesthetic principles rather than to the requirements of an external agenda of preconceived regularities. Any such 'actively created' understanding can serve to order the real world for once created it can now be seen to be in the world as an understanding possible of the world.

This does not have as a corollary that the only real is the imaginary, it does not commit us to pure idealism, it does not challenge the reality of the objective world. Were that the case what we would have constructed would be merely another radically rational schema wholly independent of the objective world. What we would have accomplished is an a priori, if that, but certainly not a synthetic a priori. The plain fact is, however, that having constructed a rationally organized body of conceptual understandings, those understandings can now be seen as being embodied in the actual, beyond our intentions, physical, real world. Understandings bring vision. The symphony brings us new, but not necessarily aural, understandings. They are understandings because when we look into the world there that stuff is and it is such stuff as never before was seen.

It is precisely because there is a real world, a world beyond our intentions, even, by the bye, the being-produced social world, that understanding is possible. This is difficult to phrase because there is always the temptation and trap of the lumpen-epistemology; of stretching our conceptual understanding across the unbridgeable gulf between understanding and the real world. It is the subsistence of the real world that supports every form of understanding. The lumpen-epistemology trap lures us into wondering if the, e.g., social world is really a world of micro interactions such that it parses to the tune of the symbolic interactionists, or a macro world more attuned to the grave and gross permutations of Marx.

The world that is, is. But if our attempt to understand it takes that as a given then we are condemned to the trap of lumpen-epistemology. We are

 (C) - 1990, Steve R. Riskin

faced with an unbridgeable gap, a gap between what we know and what there is, and all the problems of that sort of analysis descend on that model. If our knowledge is purely conceptual how do we know what there really is; if our knowledge is empirical how do we guarantee its veracity. The appropriate lesson of the facticity of the world is that the analyses that it will support are infinite. That alone, however, will not help us to avoid the trap of lumpen-epistemology. It is only by constructing our and the knowledge of the world in the processes of the activity of the creation of the world that we can create the knowledge that bridges the gap hithertofore unbridgeable.

For in that creation we not only create the knowledge and the object of that knowledge but the very forms of knowledge, the synthetic a priori, that renders that gulf harmless. Where the actor considers the symbolic nature of the interaction, she sees, in herself, her actions, and those of others, symbolic events and possibilities. She continues her production of the immediate world with symbolic lumber. And in that creation she understands the world as a world of symbolic interaction. While she necessarily has to ignore the macro forces of Marx they don't cease to exert their influence on the world, but, in so far as they are ignored, they don't inform her immediate actions. We can act, and probably must act, as though the world is less than it is precisely because the world understood is an infinite, wonderfully complex, involuted and convoluted, series of possible interpretations and understandings, not all of which can be created at the same time.

A string quartet does not allow for the insights and structures a piano can bring to the world but because the structures that the quartet brings are a necessary and real part of reality, we can forego, for the nonce, for these purposes, the piano. Besides, properly understood nothing is foregone, the whole is in the part, the universal in the particular, and the very structures the piano can bring are being shaped by the structures the quartet here and now reveals, the piano parts being potential, but that potency now enriching the quartet. Every form of created rationality once embodied subsists and is potentially subsumable in future analyses and constructs and serves, at least temporarily, as a platform for future understanding and comprehension. Every embodiment is lumber for reflective consciousness and every part is complete and real in and of itself. All parts, and all possible analyses, have real connections with the real world because it is in the real world that these constructs and structures are themselves embodied.

It is a wonderful paradox, but not surprising ever since Einstein introduced "information" as a limit to our knowledge of the world by making information an actual constituent part of the world, that any understanding of the world, whether begun from the metaphysical presuppositions of either the empiricist or the rationalist, as our understanding completes itself, turns into the other. Therefore, shades of Hegel, first it matters little from what station your journey began, for the destination is the same, nor, second, does it matter what the real nature of the real world is, the ding an sich, for the complete understanding is identical for both metaphysics and completely subsumes the other. Better said is that each is, as

 (C) - 1990, Steve R. Riskin

complete, of such a nature as to be both at once. That is one meaning of the synthetic a priori.

A wholly and completely understood rational world involves so comprehensive a body of organized knowledge that mind fully comprehends, grasps, encompasses the entirety of all possible phenomena. Since this fully realized comprehension leaves no tag ends about there is literally nothing that can be contra, other, outside of, understanding and so the world, empirical or rational, is one and the same. A wholly completely understood empirical world moves every part of that world into the sphere of understanding and so again it makes no sense to ask of the world whether it is empirical or rational. The one interpenetrates the other and fully permeates the one with the other. Complete knowledge is a wholly seamless interpermeation of mind and matter. None of this would be worth saying for such complete knowledge is practically, if not theoretically, impossible to obtain. But the same unity is entirely true of 'little' comprehensions when they are obtained, created, by the active participation of the knower.

The fact that there is a conceptual counter in our speech for "cat" means that for that concept to be useful in other contexts that the relationship of "cat" and cat is wholly interpermeated. One cannot both have a Cartesian doubt about the "cat" cat relationship and yet write verse or theatre about cats. "Cat", to be a counter in T. S. Eliot, must minimally be cat so that we can progress to the Jellico Cat Eliot creates. I ask my students "what must a cat tell you in order to assure you that he is, in fact, a cat?" Think of that a moment. As investigators we are trained to ask but also trained to be wholly skeptical. Whatever the cat said, in and from our lumpen-epistemological world view, we would have to discount his account. The very epistemological structure which puts us into the search for evidence at once makes that evidence untrustworthy. The paradox is that only an epistemology which bypasses evidence can provide certainty about the world. The only bypass is through the act of creating the understanding, which, if it is to be evidence free, must at the same time create the reality of which it is the understanding. The further paradox is that, as participants in a socially created world, we do it all the time, and have been doing it from the first.

Perhaps the greatest insight in these activities of programming was the discovery that having actually constructed a synthetic a priori, having worked the clay of understanding and insight until it revealed truth, the very discovery itself further reveals the truth about reality, about that relationship between the art of constructing understanding and the newly revealed insights into understanding reality, transforming itself into a reality that was itself created in the understanding, thus revealing <u>itself</u> and now becoming visible everywhere. Just as the construction of the concept of "alienation" reveals alienation, the fact of having created the synthetic a priori is at once the creation of the synthetic a priori as well as the understanding of the nature of the construction of the concept of the synthetic a priori such that the construct can now be seen in the world wherever it appears. Since it is the nature of human understanding that is involved and implicated in the understanding of the construct of the synthetic a priori that concept can now be seen to underlie every form of

 (C) - 1990, Steve R. Riskin

human conceptual understanding whatsoever.

There is a sort of radical reflexivity in the construction of the synthetic a priori for having created that understanding, having seen the reality thus uncovered and revealed, that understanding itself reveals that structure throughout the whole domain of human understanding. Far from being impossible or unattainable the synthetic a priori is everywhere and has always been there. Every child who learns to use the word "cat" has constructed a synthetic a priori, and to really throw the gauntlet, every ape also.

The coming to understand the conceptual nature of the word "cat," or any word, mirrors the very processes we have been here discussing. The word "cat" is at first a name for an animal, then a type of animal, but is still an empirical, or a concept that refers to empiricals for which evidence can alter, modify or develop. But at some point, in order to proceed, the word becomes conceptual, beyond evidence, and is itself a structuring force for further constructs.

Because children learn the meanings of words by a variety of aesthetic organizations we can actually see the change of the role of the word from being an empirical to its being a conceptual by taking a place in the aesthetics which places it beyond the merely accidental or the merely empirical. One of my children learned the meanings of words from the outside in, as it were. He learned by substituting new words, which being new were empirical words, into pre-existent rule structures where they became conceptual, taking the place of a previously made conceptual. He, at some point in his development, at approximately 8 months, could cruise a table and place objects we named into receptacles. If we requested him to put the ball into the basket, he would put the ball in the basket. If we requested him to put the paper in the basket, he would hesitate, inspect the objects within his reach, and tentatively place his hand on the paper. With our enthusiastic assent he would smile, examine the paper, probably moving it from the empirical domain into the conceptual, and put it in the basket. We wanted an object put into the basket, but he, then as always, had his own agenda.

The other of our children learned language from the inside out, as it were. He would take the empirical "cat" and ask a few questions about its extension and/or intension, and 'lock' in the word's meaning. I was always amazed at how few questions it took, never more than three or so, (of which two were of the "just checking" format,) to "conceptualize" the word. Thereafter he never, except in very allegorical contexts, misused the word.

Both these different aesthetic substrata continued to inform each child's development in a variety of ways and the resultant world views continued to structure their conceptual activities throughout their development and probably even to this day. But for each it was a path from the empirical to the conceptual, the one working from the empirical up to the conceptual, the other from the rule to what empirical would fit under the rule. But both came to the same kind of knowledge, a knowledge of the real made conceptual, of the conceptual related to a reality, and both created a knowledge wherein

 (C) - 1990, Steve R. Riskin

the conceptual and the real were implicated each one in the other.

There is every sense in which the conceptual "cat" is wholly interpenetrated and interpermeated in the actual cat. That doesn't constrain the cat in the least for the cat may do what she please, gaze where she will, and reveal what she may, but whatever she does, whatever new amendment we may make, is based upon the wholly safe and secure ground of "cat" identical with cat. For the most of us, done with "cat" and cat in Kindergarten, the newly reveal cateity is irrelevant or received over coffee with the morning news. While we are not engaged in the activity the wonder of the transformations are not immediate, not experienced, and therefore not apparent. There are forms of education that mirror these levels of distance and inactivity. The Chinese are quoted as saying "Tell me and I will forget, show me and I will remember, but make me do and I will understand."

But even for Eliot, for catologists, for those engaged in the activities, the newly received cateity is grounded on the "cat" cat relationship of the Kindergarten as well for it is inconceivable that cats or catologists can deconstruct our reconstruct "cat" or cat to the point of requiring us to reorder or knowledge. But if they do, in, say, the area of genetics or sub atomic structures, we are only brought more completely out of the wholly complete relationship of "cat" and cat into the now complete relationship of "cat" and cat. There is absolutely no problem in now understanding for the first time that turnips and Austrian orchids are <u>really</u> second cousins. The news is 'cushioned' in a huge number of complex arrays of intricate layers of conceptual truths.

The fact is that there is no evidence in the world for "alienation," "anomie," or "boredom." The concept both creates and completes the world. The world that it creates is <u>both</u> real and ideal. It is real in that that now is the sort of stuff you can see in the world; it is ideal in that this is what we mean when we say there is that stuff. In law school, in the first course in constitutional law, something called "substantive Due Process" continually cropped up. How can a process be a substance? How can substance be process, due or otherwise? But having learned the conceptual contexts in which the phrase was used was both the path to understanding and, at the same time, indistinguishable from the process of coming to be able to see the stuff actually in the world. We were told that the term "substantive Due Process" was a 'term of art.' How wonderfully true.

The evidence for a cat being a cat <u>is</u> the stuff of which the concept of cat is constructed. Any cat which provided, upon deposition, evidence for his bona fides which were outside the concept would be barred from testifying and subject to prosecution for perjury. Bailiff, read that cat his rights. But any cat who merely recited his conceptual qualities would be providing no information whatsoever. Move to strike for redundancy.

Part of what is implied in this view of knowledge is that the real is real precisely because it supports a metaphysics. And not just one but every sort of one. Ask the simple question "How did I get here?" And the answers range from 'I woke up and got dressed' to 'my mother believed in the absolute goodness of mankind, and so of a man.' Go to college and learn

 (C) - 1990, Steve R. Riskin

that 'the super-ego is immanently subsumed in the transcendental id' and that 'war time productive economic activity and free market forces brought southern and rural populations to the north in mid century.' In so far as each complements and completes understanding each both first comprehends then completes and finally creates the real.

For ordinary people, since the creation of the synthetic a priori is an ordinary, and perhaps even daily event, the wonder recedes rapidly. The first time one conceives the conceptual quality of the understanding and use of a word a small miracle has taken place. But having done it, subsequent words are easy, and shortly the event is simply the mundane event of looking the word up in a dictionary or asking someone what it means or divining its meaning from the context or from an intuition of, or experience with, its roots. The fact of having once, twice or thrice constructing a synthetic a priori makes the repetition easy, ordinary, and unremarkable.

One of the great wondrous gulfs is that between ordinary people, who have absolutely no trouble obtaining, validating, trusting, constructing, inventing, discovering, conveying, or teaching understandings, and the philosophers who wonder whether, because the fire seems the source of their comfort, whether they are being deceived by an 'evil' genius into thinking the fire is the source of their comfort. If that genius be evil by fooling us into being warm by the fire God preserve us from his more malevolent cousins. The ordinary knowledge of ordinary people is certain and so far from understanding the arcane worries of the philosophers ordinary people will express their certainty and their disdain at the affectation of someone questioning their authority for maintaining some certain meaning, especially if from the stance of pretending not to understand the meanings, in one and the same voice. Asked what his picket sign, which read "One man, One vote," meant, a protester said, impatient with the odd, strained, strange and unintelligible demand, answered "'One man, One vote' means 'One bloody man, One bloody vote!'" Exactly!

This certainty, by the way, is most sure where the issue of evidence is most problematic. The knowledge that people have of the external world is always, because we all fall prey to the trap of lumpen-epistemology, more open to question and doubt than the knowledge people have of their own and others' actions. The evidence for action, for intention, for embodied meanings, for sympathy with, empathy with, identification with, others, is almost non existent. There is nearly always no evidence for our understanding that someone is lying, dissembling, in love, not in love, mocking, listening, paying attention, or thinking evil thoughts. Yet we all know. Mothers threaten their children with the "eyes in the back of my head" when the child wonders how mom knew they didn't do something when they have just earnestly assured her they have. A letter in Dear Abby from a clergyman shows just this juvenile puzzlement with the understandings we all have without evidence. "Abby, when my wife and I are walking and a young woman passes, if I turn my head she accuses me of evil thoughts. Abby, I may be composing a sermon, and the look may be idle, where does she get off telling me what I am thinking?" Childe Harold, she has eyes in the front of her head (and is probably a mother to boot.).

 (C) - 1990, Steve R. Riskin

In court we do not let a witness interpret these acts but can get a fully certain grasp on what was or was not intended by an actor simply from a physical description of what they were doing, their gestures, their words, if any, and their explanations even when, or especially when, the actor is lying. Methinks she doth protest too much. MeThinks! We are all expert witnesses, even at a distance. The swift sure strokes of art, whether in a line of chalk, a musical phrase, or a slight textual description, paint so sure a knowledge that to search for the relation of the evidentiary substrate or matter to the understandings conveyed, conveyed so swiftly, so certainly, and so completely, is to all but destroy the magic of understanding. The substrate is not evidence but, because meanings are immanent, the very vehicle of the understanding.

But it is precisely here, where our knowledge is most sure and where evidence plays the least part, that the synthetic a priori is closest to the surface. We know what others intend, what others are doing, what others understand because we have ourselves constructed, embodied, isolated and created those same intents, acts, and understandings. We can see others fail to understand for we have ourselves floundered in that sea and failed similarly. Nor is this the famous "verstehen." It is out of the act of the creation of the synthetic a priori that we understand, not out of empathy. Any fine teacher can look over a class of young minds and with very few exchanges find among his or her students the realists, the nominalists, the Platonists and the Augustinians. The meaningful lumber of the world is immediately intelligible for it is the very same lumber with which we have been embodying, revealing, creating and structuring, not only our understandings, but our very language, our lives, our laughter, and our loves.

It is hard to imagine what the world would now be like were we to seriously consider that whenever we have to come to a conclusion, or come to a judgement, or come to an understanding, that we might be deceived, that we must necessarily separate knowledge from evidence, and attempt to overbridge the gulf in order to quantize the probability of our being deceived. It is hard to parse into countable instances how many times in a five minute period of ordinary, mundane existence, we have taken as certain what for the philosopher is questionable. It is hard to balance in any set of scales the multitude of momentary certainties we ordinarily overlay in accomplishing even the simplest of tasks against the four centuries philosophers have failed to advance one bitsy whit across the great Cartesian divide.

It is perhaps one of the greatest accomplishments of symbolic interaction, and of its increasingly radical progeny, the phenomenological sociologists and the ethnomethodologists, that an actor's knowledge of the world, is a creator's knowledge. That what the actor knows the actor is creating, precisely because the social world is created and understood in the same act; the understanding that an actor's knowledge is at one and the same time a producer's knowledge of the production of the very reality that is being known.

Lumpen-epistemology requires, to some degree, that the world and its

 (C) - 1990, Steve R. Riskin

understandings are static. They each occupy a situs and there is a gulf between them. To the degree that understanding changes, to the degree that understandings "become more accurate" the gulf is made, perhaps, smaller, but is never fully bridged. For just as you think that there is now this understanding of the real world, because the idea of the real world is bound up in the epistemology of the understanding, in that the understanding is a more complete and less mistaken understanding of the real, the real is recreated as an other, a resistant and subsistant other opposed to the understanding, growing and completing as that understanding is.

But the synthetic a priori is mobile in an entirely different way. The fact that understanding can now be seen to be of the form of the synthetic a priori it can change and grow in a more natural and dynamic fashion. Understanding and the world, both constructed, both paced in their creation, advance both in their complexity, richness, variety, and completeness. A student states that her ex called her and asked her something. Her statement starts with a dramatic but hushed "He calls me up... and he goes 'Don't you love me any more?'" She can hardly contain her outrage. <u>And she is done explaining</u>!

No one quite understands her. Nor does she quite understand herself herself. She sits back and begins to explore the implications of her insight, putting into words intuitions implicated in her outrage at that sentence. She says something to the effect that before she was so dependent upon men that they defined her whole life. Everything she did she did because some man in her life expected her to do so; that now she was through with that bullshit and the effrontery of that man, that man whom she divorced, that man who thinks that love is a chemical reaction, justified because empowered by the brain at the other end of his spine. The very question, "Don't you love me anymore?" created a universe in which the blame was hers, the costs were hers, and the freedom was his. Had she said the expected "Yes!," she said, then she would have had to play his game, pay his price hour after hour, day after day, for a new lifetime of torture until divorce did us part.

Her original explanation, it turns out, <u>was entirely complete!</u> What she was now doing was spelling out the implications of that understanding - that her understanding of "where he was coming from" condemned her to hell, to his universe, to being a man's plaything. That this was not a choice so much as a natural outcome of the world view that defined and thus dominated the relationship. The rest of her expansions were a menu of activity to come. A menu possible because of the simple but radical shift in the weltanschauung.

Now she has to search out entirely new resources, woman's space, a room of one's own, a new view of men, marriage, love and womanhood. Her outrage at a single question, because it entailed complex and multiple conceptual and moral schemes, and entangled her in another's alien world, opened to her the equally extensive task of the restructuring of immense, vast and expansive new worlds. The very men who she will now find in the world will be entirely different than the men she found in the world previously. They will be men who treat her as an equal, in dignity, with the expectation that

 (C) - 1990, Steve R. Riskin

the two of them will create a love, a marriage, a life, and not that love is fixed, excuses moral infirmities, and conquers all. The macho man 'love me as I am' is still part of the real world, and to some large extend helps define what new kind of male she now has come to understand is her due, but it is her understanding that makes whatever male attributes and actions she sees as more or less realizing this new concept of maleness. The 'old' male is not even, any longer, a cat in the world. Neither is the old she.

She now is committed to be engaged in constructing an entirely different reality out of new resources and involving, indeed requiring, a new kind of man in the world. Until he is created, until the she that can create him is created, until the moral universe in which the he and the she can co-exist is created, the knowledge of them is unknowable. Indeed, there is no such knowledge. The very understandings themselves, the very knowledge itself, is not the least of the creatures to be created. Everything she is speaking about is in the future. Necessarily so! A shift in world view has brought about understandings for which there is no evidence! She probably cannot recall any knowledge she has had which was so certain as this and yet there is absolutely no evidence whatsoever for the insights.

Out of a whole body of painful experience a new world view as well as a concomitant new contingent of males has to be constructed, and in the constructing, seen and found. So with the concepts of love, marriage, caring, sharing, and friendship. The very structures of the present, the future, the past, her entire universe and self must undergo recreation. And not least, a new language of equality. She will always know the old world but she will have to create the new, and with that creation comes a new knowledge, itself created, and with the new knowledge comes a new self, also created, and with the new self a new universe, you're right, created, and that universe will be peopled with people, and languaged with language, and evented with events, she can only dimly intuit now. In their creation they shall be known. Because she is creating everything new, new self, new other, new self-knowledge, new other's knowledge, new past, new present, new future, and the ability to understand anew, it is in the act of creation that both the creation, the creatures being created, the knowledge of the creatures and the knowledge of the knowledge are created. And since these can only be done in concert with the other for whom and in whom this is worth doing, the dual doing of it is probably the force that underlies love itself. Human love, the concert, is implied in the synthetic a priori precisely because knowledge is an activity.

It is not the least accomplishment of the structuring of the model that students can now see their own lives as constructs of art for which they are responsible and in which, playful as any individual incident may seem, has deadly implications for their futures and selves. Meanings, once embodied in the programming structures, can now be seen to be not only what is of interest in the objective world but also inherent in the incidents of an individual's very own life. The act of creating is an important part of the quality of the knowledge, for it is in the relations of creation that synthetic a priori knowledge is assured. "The rule and criterion of truth," said Vico, "is to have made it. We can know nothing that we have not made."

 (C) - 1990, Steve R. Riskin